



NETGEAR® ProSAFE® M6100 Chassis Series

The M6100 switch series consists of Gigabit access layer and 10 Gigabit distribution layer switches in NETGEAR modular chassis switch product line. The M6100 switch series offers high-quality, high-density chassis alternative to stackable switches in campus LAN and midsize organizations demanding networks. With more than 1.4 Tbps switching and routing capacity, passive backplane, management and fabric nonstop forwarding redundancy, the M6100 series delivers world-class resiliency and scalability. Ultimately, operating software and system management features take the complexity out of delivering L2/L3/L4 rich services for enterprise edge and SMB core deployments.

NETGEAR M6100 series key features:

- Proficient access layer in campus LAN networks, and competent distribution or core layer for midsize organizations networks
- Advanced Layer 2, Layer 3 and Layer 4 feature set - no license required - including PBR, BGP, DCBX, PFC, ETS and FCoE FIP
- Innovative distributed fabric, with nonstop forwarding and hitless failover redundancy between supervisory I/O modules
- Up to 144 (Gigabit) ports, or 72 (10 Gigabit) ports, or a combination of both in dense form factor models
- PoE+ (30 watts per port) and UPOE (60 watts per port) modular, flexible implementation
- Ultra-low latency and scalable table size with 32K MAC, 8K ARP/NDP, 4K VLANs, 12K routes

NETGEAR M6100 series PoE features:

- Any Gigabit copper blade can receive PoE+ or UPOE daughter cards for easy upgrade / downgrade and best investment protection
- Up to 3,000W PoE budget is provided by internal power supplies when 6,000W are available with additional 1U power shelf
- All set for rapid proliferation of PoE/PoE+ devices, such as IP telephony endpoints, 802.11n / 802.11ac access points and IP security cameras
- Future-proof 60W UPOE power delivered to next-gen VDI clients or physical security devices; UPOE is backward compatible with PoE/PoE+

NETGEAR M6100 series software features:

- Advanced classifier-based, time-based hardware implementation for L2 (MAC), L3 (IP) and L4 (UDP/TCP transport ports) security and prioritization
- Voice VLAN with SIP, H323 and SCCP protocols detection and LLDP-MED IP phones automatic QoS and VLAN configuration
- Efficient authentication tiering with successive DOT1X, MAB and Captive Portal methods for streamlined BYOD
- Best-in-class IPv4/IPv6 static and dynamic routing including Proxy ARP, OSPF, BGP, Policy-based routing and automatic 6-to-4 tunneling
- Enhanced IPv4/IPv6 multicast forwarding with IGMPv3/MLDv2 Querier and Control Packet Flooding protection
- High performance IPv4/IPv6 multicast routing with PIM timer accuracy and unhandled PIM (S,G,rpt) state machine events transitioning
- Advanced IPv4/IPv6 security implementation including malicious code detection, DHCP Snooping, IP Source Guard protection and DoS attacks mitigation
- Innovative multi-vendor Auto-iSCSI capabilities for easier virtualization optimization
- Datacenter-ready features include DCBX (802.1Qaz), Priority Flow Control (PFC), Enhanced Transmission Selection (ETS) and FCoE FIP Snooping

NETGEAR M6100 series resiliency and availability features:

- Passive backplane, distributed redundant fabric and redundant management provide hitless, nonstop forwarding failover protection for always-on availability
- Redundant N+1 power protection contributes to business continuity management
- Distributed Link Aggregation across all I/O blades allows for multi-resiliency and advanced load balancing capabilities
- Multi Chassis Link Aggregation (MLAG) between two M6100 switches overcomes limitations of Spanning Tree, increasing bandwidth while preserving redundancy
- Per VLAN Spanning Tree and Per VLAN Rapid Spanning Tree (PVSTP/PVRSTP) offer interoperability with PVST+ infrastructures

NETGEAR M6100 series management features:

- DHCP/BootP innovative auto-installation including firmware and configuration file upload automation
- Industry standard SNMP, RMON, MIB, LLDP, AAA, sFlow and RSPAN remote mirroring implementation
- Selectable service port for out-of-band Ethernet management (OOB)
- Selectable standard RS232 straight-through serial RJ45 and Mini-USB ports for local management console
- Standard USB port for local storage, logs, configuration or image files
- Dual firmware image and configuration file for updates with minimum service interruption
- Industry standard command line interface (CLI) for IT admins used to other vendors commands
- Fully functional Web console (GUI) for IT admins who prefer an easy to use graphical interface
- Single-pane-of-glass NMS300 management platform with mass-configuration support

NETGEAR M6100 series warranty and support:

- NETGEAR ProSAFE Lifetime Hardware Warranty*
- Included Lifetime Technical Support
- Included Lifetime Next Business Day Hardware Replacement



Hardware at a Glance

		FRONT		REAR		SIZE				
Model name	Form-Factor	I/O Slots	PSU Bay	Fan Tray	External PSU Bay	Height	Depth	Model number		
M6100-3S	Chassis	3 open line-card slots	4 power supply slots (N+1)	1 fan tray slot (front-to-back)	Connectors RPS/EPS	4U height 6.93 in (17.59 cm)	17.39 in (44.16 cm)	XCM8903		
Passive backplane; management and fabric 1+1 redundancy with hitless failover and non-stop forwarding. Supports a maximum of 144 RJ45 10/100/1000 ports or 120 SFP 100/1000 ports, 72 RJ45 10GBASE-T ports or 48 SFP+ 1000/10GBASE-X ports, or a combination.										
LINE-CARDS										
Model name	Form-Factor	10/100/1000BASE-T RJ45 ports	100/1000X Fiber SFP ports	100/1000/10GBASE-T RJ45 ports	1000/10GBase-X Fiber SFP+ ports	POE+ or UPOE upgradeable	Out-of-band Management (Ethernet)	Management Console (Serial)	Storage (image, config, log files)	Model number
XCM8948	I/O Blade	48	-	-	-	Yes	1 x RJ45 Ethernet OOB 10/100/1000 (service port)	1 x RJ45 RS232 (straight-through wiring) 1 x Mini-USB	1 x USB	XCM8948
XCM8944	I/O Blade	40	-	2	2 (independent)	Yes				XCM8944
XCM8944F	I/O Blade	-	40	2	2 (independent)	-				XCM8944F
XCM8924X	I/O Blade	-	-	24	16 (shared with 10GBASE-T)	-				XCM8924X
ACCESSORIES										
Model name	Form-Factor								Model number	
XCM89P	Daughter Card	Add PoE+ 802.3at functionality to XCM8948 and XCM8944 blades (1 daughter card per blade required; up to 30W per 1G RJ45 port; backward compatible with PoE)							XCM89P	
XCM89UP	Daughter Card	Add UPOE functionality to XCM8948 and XCM8944 blades (1 daughter card per blade required; up to 60W per 1G RJ45 port; backward compatible with PoE+/PoE)							XCM89UP	
APS1000W	Power Supply	PSU 1,000W AC (up to four PSUs in M6100-3S chassis; up to four more PSUs in RPS4000v2 external power supply bay)							APS1000W	
AFT603	Fan Tray	Fan Tray for M6100-3S chassis (front-to-back cooling principle; one fan tray per chassis required)							AFT603	
RPS4000v2	External PSU Bay	Additional 1U power shelf (RPS/EPS unit with four open power supply slots)							RPS4000v2	

Software at a Glance

LAYER 3 PACKAGE												
Model Name	Management	IPv4/IPv6 ACL and QoS, DiffServ	IPv4/IPv6 Multicast Filtering	IPv4/IPv6 Policing and Convergence	Spanning Tree Green Ethernet	VLANs	Trunking Port Channel	IPv4/IPv6 Authentication Security	IPv4/IPv6 Static Routing	IPv4/IPv6 Dynamic Routing	Datacenter Features**	Model Number
M6100-3S	Out-of-band; Web GUI; HTTPs; CLI; Telnet; SSH SNMP, MIBs RSPAN	Ingress/egress 1 Kbps shaping Time-based Single Rate Policing	IGMPv3 MLDv2 Snooping + Querier Control Packet Flooding	Auto-VoIP Auto-iSCSI Policy-based routing (PBR) LLDP-MED	STP, MTP, RSTP PV(R)STP* BPDU/STRG Root Guard EEE (802.3az)	Static, Dynamic, Voice, MAC GVRP/GMRP QinQ, Private VLANs	Distributed LAG across all I/O slots MLAG across two chassis switches	Successive Tiering (DOT1X; MAB; Captive Portal) DHCP Snooping IP Source Guard	Port, Subnet, VLAN routing, DHCP Relay; Multicast static routes; Stateful DHCPv6 Server	IPv4: RIP, VRRP IPv4/IPv6: OSPF, BGP*, Proxy ARP, PIM-SM PIM-DM, 6-to-4 tunnels	DCBX (802.1Qaz) Priority Flow Control (PFC) Enhanced Transmission Selection (ETS) FCoE FIP Snooping	XCM8903

** CLI only

Performance at a Glance

TABLE SIZE												
Model Name	Passive Backplane	Fabric Speed	Routing/Switching Capacity	Throughput	High Availability	Packet Buffer CPU Latency	MAC; ARP/NDP VLANs ; DHCP	Application Route Scaling	Multicast IGMP Group Membership	IP Multicast Forwarding Entries	sFlow	Model number
M6100-3S	Each Slot provides 2 x 40G access to the backplane 80G half-duplex 160G full-duplex per slot	480 Gbps Inter-Module Distributed Fabric	1.4 Tbps Intra-Module Each Line-Card provides local line-rate capacity	357 Mpps Inter-Module 1,071 Mpps Intra-Module	Dual Supervisory Modules Fabric and Management Nonstop Forwarding Failover (NSF)	1G/10G Blades: 32Mb/72Mb Packet Buffer CPU 800 Mhz 1GB RAM 64MB Flash Latency 3.7µs 10G RJ45 1.5µs 10G SFP+	32K MAC 8K ARP/NDP ARP: 1.2kpps 4K VLANs DHCP: 4K leases in 256 pools	Static: 512 RIP: 512 OSPF and BGP: 12,000 routes	2K IPv4 2K IPv6	1.5K IPv4 512 IPv6	32 samplers 52 pollers 8 receivers	XCM8903

Each Line Card provides line-rate switching and routing capacity. Each Slot provides 2 x 40G channels (80G half-duplex/160G full-duplex) access to passive backplane.

* This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller and modifications to product may void the warranty; covers hardware, fans and internal power supplies - not software or external power supplies. See <http://www.netgear.com/about/warranty/> for details. Lifetime technical support includes basic phone support for 90 days from purchase date and lifetime online chat support when purchased from a NETGEAR authorized reseller.

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